

Please add the following new claims.

--8. A method of increasing the refractoriness of inorganic fibers having a composition containing  $\text{SiO}_2$  and  $\text{CaO}$ , or  $\text{SiO}_2$ ,  $\text{CaO}$ , and  $\text{MgO}$ , comprising:

(1) including in the fiber composition a  $\text{P}_2\text{O}_5$  former in an amount such that:

(a)  $\{\text{SiO}_2\} + (\{\text{P}_2\text{O}_5\} - (58 + 0.5(\{\text{MgO}\} - 10))) > -2.4 \text{ wt\%}$  if  $\{\text{MgO}\} > 10 \text{ wt\%}$ ;

and

(b)  $\{\text{SiO}_2\} + (\{\text{P}_2\text{O}_5\} - 58) > -2.4 \text{ wt\%}$  if  $\{\text{MgO}\} \leq 10$ ; and optionally

(2) including in the fiber composition a  $\text{B}_2\text{O}_3$  former such that  $\{\text{B}_2\text{O}_3\}$  is in the range from 0 to 4 wt%;

wherein  $\{\text{SiO}_2\}$ ,  $\{\text{P}_2\text{O}_5\}$ ,  $\{\text{MgO}\}$ , and  $\{\text{B}_2\text{O}_3\}$  are the concentrations of  $\text{SiO}_2$ ,  $\text{P}_2\text{O}_5$ ,  $\text{MgO}$ , and  $\text{B}_2\text{O}_3$ , respectively, in the fiber in wt%;

thereby producing inorganic fibers having a shrinkage of less than 3.5% when exposed to a temperature of 1000 °C for 24 hours and a shrinkage of less than 3.5% when exposed to a temperature of 800 °C for 24 hours.--

--9. The method according to claim 8, wherein the fiber has a percentage of nonbridging oxygens, calculated based upon the above-named components, of less than 64.1%.--

--10. The method according to claim 8, wherein the fiber compositions contain concentrations of  $\text{SiO}_2$ ,  $\text{CaO}$ , and optionally  $\text{MgO}$ ,  $\text{P}_2\text{O}_5$ , and  $\text{B}_2\text{O}_3$  falling within the ranges:

$\{\text{SiO}_2\}$  44 wt% or more;

$\{\text{CaO}\}$  20 - 40 wt%;

$\{\text{MgO}\}$  0 - 18 wt%;

$\{\text{P}_2\text{O}_5\}$  0 - 12.5 wt%; and

$\{\text{B}_2\text{O}_3\}$  0 - 4 wt%

wherein  $\{\text{CaO}\}$  is the concentration of  $\text{CaO}$  in the fiber in wt%.--

--11. The method according to claim 10, wherein the fiber compositions contain concentrations of  $\text{SiO}_2$ ,  $\text{CaO}$ ,  $\text{P}_2\text{O}_5$ , and optionally  $\text{MgO}$  and  $\text{B}_2\text{O}_3$  falling within the ranges:

$\{\text{SiO}_2\}$	52 wt% to 58 wt%, when $\{\text{MgO}\} \leq 10$ wt%, and 52 wt% to $(58 + 0.5(\{\text{MgO}\} - 10))$ wt%, when $\{\text{MgO}\} > 10$ wt%;
$\{\text{CaO}\}$	22 wt% to 40 wt%;
$\{\text{MgO}\}$	0 wt% to 17.5 wt%;
$(\{\text{MgO}\} + \{\text{CaO}\})$	$< 42$ wt%;
$\{\text{P}_2\text{O}_5\}$	0.5 wt% to 10 wt%;
$\{\text{B}_2\text{O}_3\}$	0 wt% to 2 wt%.--

--12. The method according to claim 10, wherein the fiber compositions contain concentrations of  $\text{SiO}_2$ ,  $\text{CaO}$ ,  $\text{MgO}$ , and optionally  $\text{P}_2\text{O}_5$  and  $\text{B}_2\text{O}_3$  falling within the ranges:

$\{\text{SiO}_2\}$	44.34 wt% to 62.48 wt%;
$\{\text{CaO}\}$	20.36 wt% to 39.4 wt%;
$\{\text{MgO}\}$	0.62 wt% to 21.16 wt%;
$\{\text{P}_2\text{O}_5\}$	0 wt% to 12.01 wt%;
$\{\text{B}_2\text{O}_3\}$	0 wt% to 3.54 wt%.--

--13. A saline soluble inorganic fiber having a shrinkage of less than 3.5% when exposed to a temperature of 1000 °C for 24 hours and having a shrinkage of less than 3.5% when exposed to a temperature of 800 °C for 24 hours, comprising  $\text{SiO}_2$ ,  $\text{CaO}$ ,  $\text{P}_2\text{O}_5$ , and optionally  $\text{MgO}$  and  $\text{B}_2\text{O}_3$  in concentrations falling within the ranges:

$\{\text{SiO}_2\}$	52 wt% to 58 wt%, when $\{\text{MgO}\} \leq 10$ wt%, and 52 wt% to $(58 + 0.5(\{\text{MgO}\} - 10))$ wt%, when $\{\text{MgO}\} > 10$ wt%;
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PRELIMINARY AMENDMENT

{CaO}	22 wt% to 40 wt%;
{MgO}	0 wt% to 17.5 wt%;
{MgO} + {CaO}	< 42 wt%;
{P <sub>2</sub> O <sub>5</sub> }	0.5 wt% to 10 wt%; and
{B <sub>2</sub> O <sub>3</sub> }	0 wt% to 2 wt%;

wherein {SiO<sub>2</sub>}, {CaO}, {MgO}, {P<sub>2</sub>O<sub>5</sub>}, and {B<sub>2</sub>O<sub>3</sub>} are the concentrations of SiO<sub>2</sub>, CaO, MgO, P<sub>2</sub>O<sub>5</sub>, and B<sub>2</sub>O<sub>3</sub>, respectively, in the fiber in wt%, and wherein

(a)  $\{SiO_2\} + (\{P_2O_5\} - (58 + 0.5(\{MgO\} - 10))) > -2.4 \text{ wt\%}$  if  $\{MgO\} > 10 \text{ wt\%}$ ;

and

(b)  $\{SiO_2\} + (\{P_2O_5\} - 58) > -2.4 \text{ wt\%}$  if  $\{MgO\} \leq 10$ ; and

wherein the percentage of nonbridging oxygens calculated based upon the above-named components is less than 61.4%.--

--14. A saline soluble inorganic fiber having a shrinkage of less than 3.5% when exposed to a temperature of 1000 °C for 24 hours and having a shrinkage of less than 3.5% when exposed to a temperature of 800 °C for 24 hours, comprising SiO<sub>2</sub>, CaO, MgO, and optionally P<sub>2</sub>O<sub>5</sub> and B<sub>2</sub>O<sub>3</sub> in concentrations falling within the ranges:

{SiO <sub>2</sub> }	44.34 wt% to 62.48 wt%;
{CaO}	20.36 wt% to 39.4 wt%;
{MgO}	0.62 wt% to 21.16 wt%;
{P <sub>2</sub> O <sub>5</sub> }	0 wt% to 12.01 wt%;
{B <sub>2</sub> O <sub>3</sub> }	0 wt% to 3.54 wt%;

wherein {SiO<sub>2</sub>}, {CaO}, {MgO}, {P<sub>2</sub>O<sub>5</sub>}, and {B<sub>2</sub>O<sub>3</sub>} are the concentrations of SiO<sub>2</sub>, CaO, MgO, P<sub>2</sub>O<sub>5</sub>, and B<sub>2</sub>O<sub>3</sub>, respectively, in the fiber, and wherein

(a)  $\{SiO_2\} + (\{P_2O_5\} - (58 + 0.5(\{MgO\} - 10))) > -2.4 \text{ wt\%}$  if  $\{MgO\} > 10 \text{ wt\%}$ ;

and

(b)  $\{SiO_2\} + (\{P_2O_5\} - 58) > -2.4 \text{ wt\%}$  if  $\{MgO\} \leq 10$ .--

--15. A saline soluble inorganic fiber having a shrinkage of less than 3.5% when exposed to a temperature of 1000 °C for 24 hours and having a shrinkage of less than 3.5% when exposed to a temperature of 800 °C for 24 hours, comprising SiO<sub>2</sub>, CaO, MgO, P<sub>2</sub>O<sub>5</sub>, and optionally B<sub>2</sub>O<sub>3</sub>, and Al<sub>2</sub>O<sub>3</sub> in concentrations falling within the ranges:

{SiO <sub>2</sub> }	52.4 wt% to 57.85 wt%;
{CaO}	22.2 wt% to 39.4 wt%;
{MgO}	1.96 wt% to 17.4 wt%;
{P <sub>2</sub> O <sub>5</sub> }	0.82 wt% to 7.8 wt%;
{B <sub>2</sub> O <sub>3</sub> }	0 wt% to 1.95 wt%; and
{Al <sub>2</sub> O <sub>3</sub> }	< 1 wt%;

wherein {SiO<sub>2</sub>}, {CaO}, {MgO}, {P<sub>2</sub>O<sub>5</sub>}, {B<sub>2</sub>O<sub>3</sub>}, and {Al<sub>2</sub>O<sub>3</sub>} are the concentrations of SiO<sub>2</sub>, CaO, MgO, P<sub>2</sub>O<sub>5</sub>, B<sub>2</sub>O<sub>3</sub>, and Al<sub>2</sub>O<sub>3</sub>, respectively, in the fiber in wt%,

(a)  $\{SiO_2\} + (\{P_2O_5\} - (58 + 0.5(\{MgO\} - 10))) > -2.4 \text{ wt\%}$  if  $\{MgO\} > 10 \text{ wt\%}$ ;

and

(b)  $\{SiO_2\} + (\{P_2O_5\} - 58) > -2.4 \text{ wt\%}$  if  $\{MgO\} \leq 10$ .

#### REMARKS

Applicants have replaced existing claims 1-7 with new claims 8-15 in order to more closely comply with U.S. claim format. These new claims are fully supported by the original claims, and thus no new matter has been added. Further, no restriction of the scope of the original claims was intended by this amendment.

An early and favorable action on the merits is earnestly solicited.